

CLAIMS :

1. A removable-unit storage module, comprising:

storage cells arranged within the housing;

substantially parallel rows of configurable

wherein the module is mobile.

15 1, wherein a multiplicity of such modules are configured
to work as an organized array.

4. The removable-unit storage module according to claim 1, further comprising an elevator mechanism for moving robotic hands from one row of tracks to another.

5. The removable-unit storage module according to claim 1, wherein the parallel tracks spiral around the module from bottom to top.

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6. The removable-unit storage module according to claim 1, further comprising bridge tracks to connect the rows of tracks on opposite sides of the module.

5 7. The removable-unit storage module according to claim 6, wherein the bridge tracks can be connected to and disconnected from the module dynamically.

8. The removable-unit storage module according to claim 10 7, wherein the bridge tracks can be connected and disconnected from the module independently of each other.

9. The removable-unit storage module according to claim 15 7, wherein the bridge tracks can be adapted to a variable distance between modules.

10. The removable-unit storage module according to claim 20 7, wherein the bridge tracks can be adapted dynamically to the distance between modules while at least one of the modules is in motion.

11. The removable-unit storage module according to claim 25 7, wherein the bridge tracks can be connected and disconnected from the module together as a column.

12. The removable-unit storage module according to claim 1, wherein the robotic hands move in one direction for each row of tracks.

30 13. The removable-unit storage module according to claim 1, wherein the storage cells hold data storage devices.

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14. The removable-unit storage module according to claim 1, wherein the storage cells hold inventory items.

5 15. The removable-unit storage module according to claim 1, wherein the storage cells are arranged in a rule based structure within the housing.

16. The removable-unit storage module according to claim 1, further comprising means for self-locomotion.

10 17. The removable-unit storage module according to claim 16, further comprising an automatic guidance system.

15 18. The removable-unit storage module according to claim 16, further comprising means to continue module activity as part of a storage array while the module is in motion.

19. The removable-unit storage module according to claim 16, further comprising means to continue module activity independent of the original array of storage modules while in transition to membership in a new array.

20 20. The removable-unit storage module according to claim 16, further comprising manual remote control guidance.

25 21. The removable-unit storage module according to claim 1, further comprising an external skin and frame to prevent the robotic hands from snagging objects.

30 22. A removable-unit storage network, comprising:

multiple removable-unit storage modules; and
bridge tracks which connect the storage modules;
wherein the bridge tracks allow robotic hands to
move between tracks.

23. The removable-unit storage network according to claim 22, wherein the bridge tracks allow robotic hands to move between tracks on different storage modules and retrieve units from the modules.

24. The removable-unit storage network according to claim 22, wherein the bridge tracks can be dynamically connected to and disconnected from tracks on the modules.

26. The removable-unit storage network according to claim 24, wherein several rows of bridge tracks can be connected to and disconnected as a unit from tracks on the modules.

28. The removable-unit storage network according to claim 27, wherein the meta data comprises:

the number of robotic arms;

the location of the robotic arms;
the identity of stored units; and
the location of stored units.

30. The removable-unit storage network according to
10 claim 29, wherein the meta data storage is associated
with the module.

32. The removable-unit storage network according to claim 30, wherein such association persists when the module is reconfigured via moving bridges.

25 34. The removable-unit storage network according to
claim 27, wherein the meta data of separate modules are:
integrated when modules are connected; and
decoupled when modules are disconnected.

35. The removable-unit storage network according to claim 22, wherein specific users have access to specific modules within the network.